UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,714	12/02/2003	Frank Hundscheidt	P16614-US1	4732

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EXAMINER
LIU, LIN

ART UNIT	PAPER NUMBER
2145	

MAIL DATE	DELIVERY MODE
08/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/725,714	HUNDSCHEIDT ET AL.
	Examiner	Art Unit	
	Lin Liu	2145	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _5/10/2007_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-5,8,9 and 11-15_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-5, 8-9, 11-15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All   b)☐ Some * c)☐ None of:

　　　　1.☒ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is responsive to communications filed on 5/10/2007.

Claims 1-5, 8-9 and 11-15 are pending and have been examined.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims **8 and 9** are rejected under 35 U.S.C 102 (a) as being anticipated by

Telefonaktiebolaget LM Ericsson (EP 1 231 753 A) hereinafter Telefon.

Consider **claim 8 (Currently Amended),** Telefon teaches a device for determining

locations of service instances for optimising distribution of a service in a network, from a

source to a plurality of clients each having predetermined requirements, wherein said

network can be modelled by means of a graph (Telefon, figs. 1-4), comprising:

lodging means, for hosting a service instance (Telefon, col. 4 to col. 5, paragraphs

34-36, noted that the service suppliers in the service distribution tree);

checking means, for checking whether the service instance when placed in a vertex

on the next higher level can fulfil the requirements of all clients to be served by said

service instance (Telefon, col. 4, paragraphs 30-31, noted that the client

checks/determines which service suppliers to take);

processing means, for coordinating said lodging means and said checking means

and for controlling said vertex (Telefon, col. 6, paragraph 52, and col. 7, paragraph 62);

and

means for moving the service instance (Telefon, col. 7, paragraph 56 and col. 8,

paragraph 65, noted the uplink connection and the bottom up approach) to minimize a

number of service instances necessary to provide the service to the client; and

input/output means, for sending and receiving messages and service instances

(Telefon, col. 4, paragraph 27, noted the domains provide services to the clients).

Claim 9 depends from claim 8, thus it is rejected under the same reason ale.

4.   Claims **1- 4, 8-9, and 11-14** are rejected under 35 U.S.C 102 (e) as being

anticipated by **Ishiguro (Publication no.: US 2003/0185397 A1).**

Consider **claims 1 (Currently Amended),** Ishiguro teaches a method and a system

for determining locations of service instances for optimising distribution of a service in a

network, the service instance providing the service from a source to a plurality of clients

each having predetermined requirements, wherein said network can be modelled by

means of a graph, said method comprises steps of:

placing (page 7, paragraph 143, noted that each node on the tree is assigned with a licensing key in servicing for the encryption and decryption) a service instance in each leaf in said graph (fig. 12, and page 7, paragraph 142, noted the hierarchical tree structure is made up with the leaves); and starting from the leaves, for each service instance (page 8, paragraph 145, noted that the key granting the use of any service starts from the leaf at the bottom level to the root node at the topmost level):

checking (page 7, paragraph 129, noted that the client needs to provide leaf ID and password to the server in order to check whether the client has paid for the servicing fee) whether the service instance when placed in a vertex (page 7, paragraph 143, noted that this checking is done in the node with the key provided) on the next higher level can fulfil the requirements (page 8, paragraph 148, noted that after successively decrypting the node keys, the process is carried to next higher level node) of all clients to be served by said service instance; and

depending on the result of the checking step, moving said service instance one level higher (page 8, paragraph 148 and page 13 paragraph 223, noted that after successively decrypting the node keys, the process is moved to next higher level node) to minimize a number of service instances necessary to provide the service to the clients.

Consider **claim 2,** Ishiguro teaches a method according to claim 1, further comprises the steps of determining that at least two service instances (fig. 12, leaves 0, 1, 2 and 3) meet in said vertex (page 9, paragraph 155, noted that these leaves share the same vertex node K00) and combining said service instances into one service

instance (page 9, paragraph 155, noted that this shared node key is established as a

content key in servicing for data encryption and decryption).

Consider **claim 3,** Ishiguro teaches a method according to claim 1 further

comprises a step, prior to said placing step, of determining levels in said graph (page

10, paragraph 170, noted that the data has a tag part which indicates the positions of

the encrypted node keys and leaf keys).

Consider **claim 4,** Ishiguro teaches a method according to claim 1, wherein said

checking step comprises a table-based analysis step (fig. 15A, and page 9, paragraphs

157 and 159, noted that a table-based analysis is performed for the encryption keys).

Consider **claim 8 (Currently Amended),** Ishiguro teaches a device for

determining locations of service instances for optimising distribution of a service in a

network, from a source to a plurality of clients each having predetermined requirements,

wherein said network can be modelled by means of a graph, comprising:

lodging means (page 7, paragraph 143, noted that each node on the tree is

assigned with a licensing key in servicing for the encryption and decryption), for hosting

a service instance;

checking means, for checking (page 7, paragraph 129, noted that the client needs

to provide leaf ID and password to the server in order to check whether the client has

paid for the servicing fee) whether the service instance when placed in a vertex on the

next higher level can fulfil the requirements (page 8, paragraph 148, noted that after

successively decrypting the node keys, the process is carried to next higher level node)

of all clients to be served by said service instance;

processing means (fig. 2 CPU 21), for coordinating said lodging means and said checking means and for controlling said vertex (page 4, paragraph 79 and 87, noted that CPU carries out various of processes. Including the communication responses between the clients and the servers); and

means for moving the service instance (page 8, paragraph 148 and page 13 paragraph 223, noted that after successively decrypting the node keys, the process is moved to next higher level node) to minimize a number of service instances necessary to provide the service to the client; and

input/output means (fig. 2, I/O interface 32), for sending and receiving messages and service instances (page 4, paragraphs 83, 84 and 87, noted that I/O interface handles the response from the user and transmits the encrypted content data to the storage).

Consider **claim 9,** Ishiguro teaches a device according to claim 8, further comprises combining means, for determining that at least two service instances (fig. 12, leaves 0, 1, 2 and 3) meet in said vertex (page 9, paragraph 155, noted that these leaves share the same node K00) and for combining said service instances into one service instance (page 9, paragraph 155, noted that this shared node key is established as a content key in servicing for data encryption and decryption).

Consider **claim 11, (Currently Amended)** A system for determining locations of service instances for optimizing distribution of a service in a communication network, the service instance providing the service from a source to a plurality of clients each

having predetermined requirements, wherein said communication network can be modelled by means of a graph, comprising:

means for placing a service instance in each leaf in said graph (page 7, paragraph 143, noted that each node on the tree is assigned with a licensing key in servicing for the encryption and decryption);

means for starting with each leave (page 8, paragraph 145, noted that the key granting the use of any service starts from the leaf at the bottom level to the root node at the topmost level) and determining whether said service instance, when place in a vertex on the next higher level, can fulfill the requirements of all clients to be served by said services instances (page 8, paragraph 148, noted that after successively decrypting the node keys, the process is carried to next higher level node);

in response to an affirmative determination, means for moving said service instance one level higher (page 8, paragraph 148 and page 13 paragraph 223, noted that after successively decrypting the node keys, the process is moved to next higher level node) to minimize a number of service instances necessary to provide the service to the clients.

depending on the result of the checking step (page 8, paragraph 148 and page 13 paragraph 223, noted that after successively decrypting the node keys, the process is moved to next higher level node), moving said service instance one level higher to minimize a number of service instances necessary to provide the service to the clients.

Consider **claim 12,** the limitations of this claim are substantially the same as those in claim 2. Therefore the same rationale for rejecting claim 2 is used to reject claim 12. By this rationale **claim 12** is rejected.

Consider **claim 13,** the limitations of this claim are substantially the same as those in claim 3. Therefore the same rationale for rejecting claim 3 is used to reject claim 13. By this rationale **claim 13** is rejected.

Consider **claim 14,** the limitations of this claim are substantially the same as those in claim 4. Therefore the same rationale for rejecting claim 4 is used to reject claim 14. By this rationale **claim 14** is rejected.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

7.   Claims **5 and 15 are** rejected under 35 U.S.C. 103(a) as being unpatentable over **Ishiguro (Publication no.: US 2003/0185397 A1)** in view of **Moody (publication no.: US 2005/0005272)**

With respect to **claims 5 and 15,** Ishiguro teaches all the claimed limitations except that he does not explicitly teach a method and a system according to claim 1 and 11, wherein said checking step comprises a Petri net analysis step.

In an analogous art, Moody teaches the a checking step comprises a Petri net analysis step (page 3, paragraphs 47 and 48, noted that Petri nets technique is used in analyzing the system).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the analysis technique of Petri nets as taught by Moody in Ishiguro's method in order to provide a (powerful and efficient system model that incorporate the synchronization, conflict, and concurrency issues associated with the distributed, dynamic resource allocation problem of autonomous negotiating systems, page 3, paragraph 48).

Response to Arguments

8.   Applicant's arguments with respect to claims 8 and 9 have been considered but are moot in view of the new ground(s) of rejection with reference.

9.   Applicant's arguments filed on 5/10/2007 have been fully considered but they are not persuasive.

10.   In response to applicant's argument that "the licenses are not service instances as defined in the applicant's specification". The examiner disagrees. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. The instant claim defines the "service instance" for providing service; similarly, Ishiguro is using the key in licensing the copyright service of data from the server (page 7, paragraph 133, and page 10, paragraph 183).

11.   In response to applicant's arguments, the recitation "The nodes mentioned in Ishiguro are merely nodes of the graph, not nodes of a network." has not been given patentable weight because the recitation "network" occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

12.   Furthermore, in response to applicant's argument that "The nodes mentioned in Ishiguro are merely nodes of the graph, not nodes of a network.". The examiner disagrees. Firstly, the leaves in the graph are not specifically defined to be the network nodes in the instant claim. Secondly, Ishiguro does teach, suggest/disclose that the nodes of the graph are nodes of a network. (figs. 1 and 12, page 9, paragraph 155, noted that the devices 0-3 share the same node keys, and the encryption of this key is distributed to the devices over the network, thus it is sufficiently to say that these node keys of the graph are part of the network.).

13.   In response to applicant's arguments, the recitation "In addition, the Applicant's

claimed invention involves locating the service instances. However, the keys of Ishiguro

do not involve locating the keys, but rather managing the keys (licenses)." has not been

given patentable weight because the recitation "locating the service instances" occurs in

the preamble. A preamble is generally not accorded any patentable weight where it

merely recites the purpose of a process or the intended use of a structure, and where

the body of the claim does not depend on the preamble for completeness but, instead,

the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535

F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88

USPQ 478, 481 (CCPA 1951).

14.   Furthermore, in response to applicant's argument that "In addition, the

Applicant's claimed invention involves locating the service instances. However, the keys

of Ishiguro do not involve locating the keys, but rather managing the keys (licenses).".

The examiner disagrees. The limitation regarding "locating the keys" is shown in page

10, paragraph 170, noted that the tag part 607 comprises tag that indicate the positions

of the encrypted keys.

15.   In response to applicant's argument that "... to minimize a number of service

instances necessary to provide the service to the clients.", a recitation of the intended

use of the claimed invention must result in a structural difference between the claimed

invention and the prior art in order to patentably distinguish the claimed invention from

the prior art. If the prior art structure is capable of performing the intended use, then it

meets the claim.

Conclusion

16.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

   - Allon et al. (patent no.: 5,539,883) discloses a load balancing of network by

        maintaining in each computer information regarding current load on the computer

        and load on some other computers in the network.

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Lin Liu whose telephone number is (571) 270-1447.

The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

L.Liu
07/12/2007

/JASON CARDONE
SUPERVISORY PATENT EXAMINER